



NASA Joint AIRS/Sounder Science Team Meeting College Park, MD

(Times indicated are Eastern time)

Wednesday, October 4, 2023

Session 1: Introduction

Co-Chairs: Larrabee Strow (UMBC), Vivienne Payne (JPL), Joao Teixeira (JPL) and Eric Fetzer (JPL)

Time (EDT)	Name	Affiliation	Title
8:30	Joao Teixeira Vivienne Payne Larrabee Strow	NASA JPL NASA JPL UMBC	Introduction to the Joint AIRS/Sounder STM
8:50	Dorothee Coppens	EUMETSAT	Hyperspectral infrared activities at EUMETSAT to prepare for the upcoming mission MTG-IRS
9:10	Lazaros Oreopoulos	NASA GSFC	Aqua mission update
9:30	James Gleason	NASA GSFC	Suomi NPP mission update
9:50	David Considine	NASA HQ	Perspective from HQ and Data Continuity
10:10	Will McCarty	NASA HQ	Perspective from the AIRS/Sounder Program Scientist

AM Break: 10:30 AM - 11:00 AM

Session 2: Planetary Boundary Layer

Co-Chairs: Carol Anne Clayson (WHOI) and Joao Teixeira (JPL)

11:00	Antonia Gambacorta	NASA GSFC	A Multi-Sensor Strategy to Earth's Planetary Boundary Layer
11:20	Kuo-Nung Wang	NASA JPL	Characterize temperature and water vapor structure in PBL with Joint GNSS radio occultation (GNSS-RO) and passive microwave radiometer (MWR) retrieval
11:40	Bill Irion	NASA JPL	Progress on AIRS/OCO2 joint retrieval of temperature and water vapor
12:00 PM	Guojun Gu	U. of Maryland	Detection of the Planetary Boundary Layer Height over Oceans using COSMIC-2 and Spire Data
12:20 PM	Sun Wong	NASA JPL	Microwave Sounding of the PBL Thermodynamic Structures in the Front and Wake of Tropical Convective Systems: HAMS R Observations During NASA CPEX Campaigns
12:40 PM	Dave Emmitt	Simpson Weather Associates	Exploring PBL coastal transitions with an airborne Doppler Wind Lidar and dropsondes

Lunch: 1:00 PM - 2:00 PM

2:00 PM	Yanqiu Zhu	NASA GSFC	Observation impacts in the lower troposphere and challenges of Planetary Boundary Layer data assimilation
2:20 PM	Marcin Kurowski	NASA JPL	Synthetic Observations of the Planetary Boundary Layer from Space: A Retrieval Observing System Simulation Experiment Framework
2:40 PM	Adam Milstein	MIT	Improved PBL Height from Sounders using Neural Network Techniques
3:00 PM	Evan Fishbein	NASA JPL	Spatial Variability of PBL Convection Observed by HAMS R During the CPEX-CV Campaign

Session 3: Weather and Climate

Co-Chairs: Gregory Elsaesser (GISS) and Eric Fetzer (JPL)

3:20 PM	Larrabee Strow	UMBC	Perspectives on Long-Term Climate Monitoring with AIRS/CrIS
3:40 PM	Sergio DeSouza-Machado	UMBC	Thermodynamic trends and Longwave Feedbacks from 20 years of AIRS Observations
PM Break: 4:00 PM - 4:30 PM			
4:30 PM	Xianglei Huang	U. of Michigan	A consistent depiction of longwave broadband and spectral radiative forcing and feedback from two decades of observations
4:50 PM	George Aumann	NASA JPL	Northward shift and narrowing of the ITCZ in 20 years of AIRS data
5:10 PM	Linette Nicole Boisvert	NASA GSFC	A warmer and wetter Arctic: insights from a 20-year AIRS record

5:30 PM	Seiji Kato	NASA LaRC	Use of AIRS level 3 products in the production of CERES climate data record
5:50 PM	Xu Liu	NASA LaRC	Deriving a Suite of Climate Data Records from 21-years of Sounder Observations
6:10 PM	Baijun Tian	NASA JPL	Assessing the Tropospheric Temperature and Humidity Simulations in CMIP3/5/6 Models Using the AIRS Obs4MIPs V2.1 Data
End of Session: 6:30 PM			
 NASA Joint AIRS/Sounder Science Team Meeting College Park, MD Thursday, October 5, 2023 Session 3: Weather and Climate (continued) Co-Chairs: Gregory Elsaesser (GISS) and Eric Fetzer (JPL)			
8:00	Qing Yue	NASA JPL	Understanding the discrepancy of the upper atmosphere temperature trend from different observations
8:20	Brian Kahn	NASA JPL	Two decades of temperature and humidity variance scaling within the PBL using the Atmospheric Infrared Sounder (AIRS)
8:40	Gregory Elsaesser	NASA GISS & Columbia University	Use of NASA satellite sounder data to study convection as part of pre-deployment activities related to the upcoming DOE southeast U.S. ARM 3rd Mobile Facility (AMF3) campaign
9:00	Kathleen Schiro	U. of Virginia	Investigating Environmental Controls on Tropical Mesoscale Convective System Lifecycles
9:20	Craig R. Ferguson	U. at Albany	Variability in midlatitude synoptically forced precipitation detected by NASA AIRS
9:40	Oreste Reale	SSAI & NASA GSFC	A new ML-based adaptive thinning methodology to improve the impact of AIRS and CrIS assimilation on Global Tropical Cyclone Forecasts
AM Break: 10:00 AM - 10:30 AM			
10:30	Erin Jones	NOAA	Exploring the Use of CrIS Shortwave Observations in NOAA's Global Data Assimilation System
10:50	Zhaoxia Pu	U. of Utah	The Use of Regional Data Assimilation to Improve Numerical Simulations of Diurnal Characteristics of Precipitation during an Active Madden-Julian Oscillation Event over the Maritime Continent
11:10	Isaac Moradi	NASA GSFC & U. of Maryland	Optimizing assimilation of microwave and radar observations in the NWP models
11:30	Erica Mcgrath-Spangler	Morgan State University & NASA GSFC	Evaluating the Impact of Geostationary Sounders in the Context of International Coordination
Session 4: Calibration and level 1 Co-Chairs: David Tobin (UW) and Steve Broberg (JPL)			
11:50	Evan Manning	JPL	AIRS Level-1 Updates
12:10 PM	David Tobin	U. of Wisconsin-Madison	Status of the Cross-track Infrared Sounder Level 1B, IMG, and PC/RED products
Lunch: 12:30 PM - 1:30 PM			
1:30 PM	Larrabee Strow	UMBC	CHIRP: A long-term cloud-based hyperspectral radiance record
1:50 PM	Bjorn Lambrigtsen	NASA JPL	Continuity and Quality of Microwave Sounder Level 1 Data Products
2:10 PM	Likun Wang	U. of Maryland	Merging of SSU Observations with AIRS toward Extending Stratospheric Temperature Climate Data Records
2:30 PM	Tom Pagano	NASA JPL	Thermal Vacuum Calibration of the Pyro-Atmosphere Infrared Sounder (PIRS) / CubeSat Infrared Atmospheric Sounder (CIRAS)
Session 5: Retrievals and Validation Co-Chairs: Nadia Smith (STC) and Bjorn Lambrigtsen (JPL)			
2:50 PM	Nadia Smith	STC	CLIMCAPS algorithm and product suite updates
3:10 PM	Bill Irion	NASA JPL	Production of single-footprint retrievals from AIRS using JoSFRA
PM Break: 3:30 PM - 4:00 Pm			
4:00 PM	Wan Wu	NASA LaRC	Newly Available Single Field-of-view Sounder Atmospheric Product (SIFSAP) and its Derivative Product
4:20 PM	Murty Divakarla	NOAA	NUCAPS Hyperspectral Infrared Atmospheric Sounding Products: Recent Advances and Environmental Applications

4:40 PM	Chris Hepplewhite	UMBC	Evolution and Status of the Stand-Alone Radiative Transfer Algorithm (SARTA)
5:00 PM	Bjorn Lambrigtsen	NASA JPL	NASA's Post-EOS Microwave Sounder Retrieval System
5:20 PM	Yan Zhou	U. of Maryland	Evaluation of Total Precipitable Water Trends from MIRS Reprocessed SNPP ATMS Observations
5:40 PM	John Yang	U. of Maryland	Assessing TROPICS Pathfinder's Precipitation Retrieval Performance Through the NOAA Microwave Integrated Retrieval System (MiRS)
End of Session: 6:00 PM			
 NASA Joint AIRS/Sounder Science Team Meeting College Park, MD Friday, October 6, 2023 Session 5: Retrievals and Validation (continued) Co-Chairs: Nadia Smith (STC) and Bjorn Lambrigtsen (JPL)			
8:00	Stephen Leroy	AER	An Efficient Algorithm for Radio Occultation and Nadir Scanner Observation Collocation
8:20	Tony Reale	NOAA	Assessment of Operational Satellite Retrieval Performances Baselined to Radiosonde
Session 6: Atmospheric Composition Co-Chairs: Kelley Wells (UM) and Vivienne Payne (JPL)			
8:40	Tao Wang	NASA JPL	AIRS v7 and CLIMCAPS-Aqua v2 level-3 composition products
9:00	Greg Osterman	NASA JPL	Tropospheric Ozone and its Precursors from Earth System Sounding (TROESS) project: An update on data products, availability, and science results
9:20	Adrian Flores	Howard University	Historical Ozone Data from Ozonesondes Launched over the Howard University Beltsville Campus
9:40	Karen Cady-Pereira	AER	Validating CrIS NH3 against aircraft data from DISCOVER-AQ and surface data from the USDA network in the Idaho Magic Valley
AM Break: 10:00 AM - 10:30 AM			
10:30	Kelley Wells	U. of Minnesota	Global measurements of methanol, ethene, ethyne, and HCN from the Cross-track Infrared Sounder
10:50	Josh Laughner	NASA JPL	Progress and challenges in retrieving PAN from AIRS
11:10	Madison Shogrin	Colorado State University	Intercontinental transport of Peroxyacyl Nitrates (PANs) from CrIS observations
11:30	Mukesh Rai	NASA JPL	Trace gas atmospheric rivers: remote drivers of air pollutants
11:50	Leonid Yurganov	UMBC	AIRS and TROPOMI total column CO for wildfires in Central Siberia: the coal burning role
12:10 PM	Ira Leifer	Bubbleology Research International	Emissions from the Ports of Los Angeles and Long Beach spanning the covid19 shutdown: A Port CMS
Lunch: 12:30 PM - 1:30 PM			
1:30 PM	Jun Wang	U. of Iowa	Exploring Correlated Variations of Aerosols and Tropospheric Temperature over the Indian Region: A Principal Component Analysis Approach
Session 7: Applications Co-Chairs: Emily Berndt (MSFC) and Heidar Thrastarson (JPL)			
1:50 PM	Heidar Thrastarson	NASA JPL	Overview of AIRS Applications
2:10 PM	Alireza Farahmand	NASA JPL	AIRS-Derived Drought Products: Recent Developments and Future Plans
2:30 PM	Emily Berndt	NASA MSFC	Integrating NASA Aqua AIRS in a Real-time NUCAPS Science-to-Applications System to Support Convective Storm Analysis and Forecasting
2:50 PM	Brian Kahn	NASA JPL	Improving The Time Resolution Of Hyper-Spectral Infrared Sounding Observations With Trajectory Enhancement

3:10 PM	Agnes Lim	U. of Wisconsin-Madison	Do soundings from hyperspectral sounder flying in the early morning benefit convective forecast?
<i>PM Break: 3:30 PM - 4:00 PM</i>			
4:00 PM	Binita KC	NASA GSFC	Navigating Cloud Migration: Building Resources for Users
4:20 PM	Xiaozhen Xiong	NASA LaRC	Some Applications of SiFSAP for Wildfires, Weather and Atmospheric Dynamics Studies
4:40 PM	Arunas Kuciauskas David Peterson	U.S. Naval Research Laboratory	Applying NUCAPS as a Predictive Tool to Mitigate Dangerous Firefighting Conditions
5:00 PM			Final Discussion (Moderator: Joao Teixeira)
<i>End of Session: 6:00 PM</i>			